

Scientific Note

A NEW ANT INTRODUCTION FOR NORTH AMERICA: *PHEIDOLE TENERIFFANA* (FOREL) (HYMENOPTERA: FORMICIDAE)

During the spring of 1989, while spraying weeds at Admiral Kidd Park in western Long Beach, California, I discovered several foraging columns of small brown ants. The ants were nesting in the southeastern corner of the park, in sandy soil. I was able to identify the ants to the genus *Pheidole*; later, I sent samples to the Departments of Agriculture in Orange and Los Angeles counties, the California Department of Food & Agriculture, and the Los Angeles County Natural History Museum. Ultimately, the ants were identified to species as *Pheidole teneriffana* (Forel) on 20 Feb 1990 by E. O. Wilson of Harvard University. This species, a native of north Africa and the Canary Islands, has never been recorded from North America, although it had been previously found in Cuba in 1932 (Aguayo, T. 1932. Bull. Brooklyn Entomol. Soc., 22: 219). Between 1989 and 1991, this ant had spread to infest about five acres of the seven acre park site where it was discovered.

The workers of *P. teneriffana* are 2.5 mm long, with a black-brown head and gaster, and a lighter brown thorax. Soldiers of the species have oversized heads with powerful mandibles, and are the same colors as the workers, but larger and 3.75 mm long. The queen is entirely a shining dark brown, and 5.5 to 6.0 mm long, while males are dull light brown to medium brown and 4.0 to 4.5 mm long. The main function of the soldiers is to defend the nest, although both they and the workers will fight with other ants over food or when they are invading new territory.

In Admiral Kidd Park, I have observed on several occasions *P. teneriffana* displacing the Argentine ant, *Iridomyrex humilis* Mayr, another introduced pest species. Between 13 Mar and 5 Jun 1990, and on 9 Sep 1991, *P. teneriffana* advanced into Argentine ant territories, attacking and destroying colonies and taking over their nest sites. Similar interactions have been observed between *Iridomyrex humilis*, and another *Pheidole* sp., *P. megacephala* (Fabr.), in Hawaii and Bermuda (Haskins, C. P. & E. F. Haskins. 1965. Ecology, 46: 736–740; Crowell, K. L. 1968. Ecology, 49: 551–555; Fluker, S. S. & J. W. Beardsley. 1970. Ann. Entomol. Soc. Am., 63: 1290–1296).

In contrast, in the park, a native fire ant, *Solenopsis xyloni* McCook, often raids the nests of *P. teneriffana* and may annihilate whole colonies. Curiously, however, *S. xyloni* is itself displaced, at least partially, by *I. humilis*, so that a repetitious cycle of displacement might occur. It may be possible that *I. humilis* is repelled by a kariomone produced by *P. teneriffana*, but which does not repel *S. xyloni*; whereas, *S. xyloni* might be repelled by a kariomone produced by *I. humilis*?

Pheidole teneriffana seems to have few “conflicts” with less aggressive native ants in the park, but I have observed it attacking workers of the California red harvester ant, *Pogonomyrmex californicus* Buckley. Other ant species present in

the park are: *Conomyrma bicolor* Wheeler, *Conomymra insana* Buckley, *Tapi-noma sessile* Say, *Formica pilicornis* Emery, *Monomorium minimum* Buckley and *Cardiocondyla ectopia* Snelling.

Pheidole teneriffana nests have many inseminated queens; 23 were observed in one colony that was changing its nest site. The nests occur as large colonies with low mounds in the soil, along curbs or sidewalks, at the edges of lawns, in cracks in pavement, and at the bases of trees. New colonies are started by budding, with new queens mating in the nest and moving with part of the existing colony to form new nests in adjacent territory. The workers forage night and day, unless it gets too hot ($> 26^{\circ}\text{C}$). However, if the nest is in a shady location, they will remain active on the hottest days. Colony members are predacious on live insects, such as noctuid or beetle larvae. They may also harvest seeds and scavenge dead or dying insects. I have not observed them tending aphids, but they do feed on sweet or greasy materials.

Records.—CALIFORNIA. *LOS ANGELES Co.*: Long Beach, Admiral Kidd Park, 7 Mar 1989, M. J. Martinez.

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